

```
FFFFFFFFFFFFFFFFF 111 111 XXX XXX
FFFFFFFFFFFFFFFFF 111 111 XXX XXX
FFFFFFFFFFFFFFFFF 111 111 XXX XXX
FFF 111111 111111 XXX XXX
FFF 111111 111111 XXX XXX
FFF 111111 111111 XXX XXX
FFF 111 111 XXX XXX
FFF 111 111 XXX XXX
FFF 111 111 XXX XXX
FFFFFFFFF FFF 111 111 XXX XXX
FFFFFFFFFFFFFFFF 111 111 XXX XXX
FFFFFFFFFFFFFFFF 111 111 XXX XXX
FFF 111 111 XXX XXX
FFF 111 111 XXX XXX
FFF 111 111 XXX XXX
FFF 111 111 XXX XXX
FFF 111 111 XXX XXX
FFF 111 111 XXX XXX
FFF 111111111 111111111 XXX XXX
FFF 111111111 111111111 XXX XXX
FFF 111111111 111111111 XXX XXX
```

IOCS
IO-C
IO-C
IO-C
IO-F
IO-S
KICL

KILL
KILL
LB_E
LB_C
LB_F
LB_H
LB_L
LOCA
LOCA
LOCK

LOCK
LOCK
LOCK
LOC
LOC
L-CC
L-CC
L-DA
L-DA
MAIN
MAKE
MAKE
MAKE
MAKE
MAKE

MAKE
MAKE
MAP
MAP

MAP
MAR
MAR
MAR
MAR
MAR

```
CCCCCCCC  RRRRRRRR  EEEEEEEEE  FFFFFFFFFF  CCCCCCCC  BBBB888888
CCCCCCCC  RRRRRRRR  EEEEEEEEE  FFFFFFFFFF  CCCCCCCC  BBBB888888
CC         RR      RR      FF         CC         BB      BB
CC         RR      RR      FF         CC         BB      BB
CC         RR      RR      FF         CC         BB      BB
CC         RR      RR      FF         CC         BB      BB
CC         RRRRRRRR  EEEEEEEEE  FFFFFFFFFF  CC         BBBB888888
CC         RRRRRRRR  EEEEEEEEE  FFFFFFFFFF  CC         BBBB888888
CC         RR  RR    RR      FF         CC         BB      BB
CC         RR  RR    RR      FF         CC         BB      BB
CC         RR      RR      FF         CC         BB      BB
CC         RR      RR      FF         CC         BB      BB
CCCCCCCC  RR      RR      EEEEEEEEE  FF         CCCCCCCC  BBBB888888
CCCCCCCC  RR      RR      EEEEEEEEE  FF         CCCCCCCC  BBBB888888

LL         IIIIII  SSSSSSSS
LL         IIIIII  SSSSSSSS
LL         II      SS
LL         II      SS
LL         II      SS
LL         II      SS
LL         II      SSSSSS
LL         II      SSSSSS
LL         II      SS
LL         II      SS
LL         II      SS
LL         II      SS
LLLLLLLLLL IIIIII  SSSSSSSS
LLLLLLLLLL IIIIII  SSSSSSSS
```



```
1 0001 0 MODULE CREFCB (
2 0002 0 LANGUAGE (BLISS32),
3 0003 0 IDENT = 'V04-000',
4 0004 0 ) =
5 0005 1 BEGIN
6 0006 1
7 0007 1
8 0008 1 *****
9 0009 1 *
10 0010 1 * COPYRIGHT (c) 1978, 1980, 1982, 1984 BY
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26 0026 1 * SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.
27 0027 1 *
28 0028 1 *
29 0029 1 *****
30 0030 1
31 0031 1 ++
32 0032 1
33 0033 1 FACILITY: F11ACP Structure Level 2
34 0034 1
35 0035 1 ABSTRACT:
36 0036 1
37 0037 1 These routines create and initialize a file control block
38 0038 1 from the given file header.
39 0039 1
40 0040 1 ENVIRONMENT:
41 0041 1
42 0042 1 STARLET operating system, including privileged system services
43 0043 1 and internal exec routines. These routines must be called in
44 0044 1 kernel mode.
45 0045 1
46 0046 1 --
47 0047 1
48 0048 1
49 0049 1
50 0050 1 AUTHOR: Andrew C. Goldstein, CREATION DATE: 14-Dec-1976 16:48
51 0051 1
52 0052 1 MODIFIED BY:
53 0053 1
54 0054 1 V03-008 CDS0004 Christian D. Saether 30-Aug-1984
55 0055 1 Add optional PRIMFCB argument to CREATE_FCB routine.
56 0056 1
57 0057 1 V03-007 CDS0003 Christian D. Saether 14-Aug-1984
```

```

58      0058 1 | Have REBLD_PRIM_FCB routine mark windows incomplete.
59      0059 1 |
60      0060 1 | V03-006 CDS0002      Christian D. Saether      1-Aug-1984
61      0061 1 | Add REBLD_PRIM_FCB routine.
62      0062 1 |
63      0063 1 | V03-005 LMP0275      L. Mark Pilant,      12-Jul-1984 14:42
64      0064 1 | Initialize the ACL info in the ORB to be a null descriptor
65      0065 1 | list rather than an empty queue. This avoids the overhead
66      0066 1 | of locking and unlocking the ACL mutex, only to find out
67      0067 1 | that the ACL was empty.
68      0068 1 |
69      0069 1 | V03-004 LMP0221      L. Mark Pilant,      3-Apr-1984 9:16
70      0070 1 | Add support for an ORB in the FCB.
71      0071 1 |
72      0072 1 | V03-003 CDS0001      Christian D. Saether      29-Dec-1983
73      0073 1 | Use L_NORM linkage and BIND_COMMON macro.
74      0074 1 |
75      0075 1 | V03-002 LMP0059      L. Mark Pilant,      27-Dec-1982 9:06
76      0076 1 | Make FCB handling consistant with file header existance.
77      0077 1 |
78      0078 1 | V03-001 LMP0036      L. Mark Pilant,      29-Jul-1982 13:15
79      0079 1 | Set up the initial ACL segment queue.
80      0080 1 |
81      0081 1 | V02-003 ACG0241      Andrew C. Goldstein, 11-Dec-1981 23:01
82      0082 1 | Use common code in INIFC2 to set up FCB
83      0083 1 |
84      0084 1 | V02-002 ACG0167      Andrew C. Goldstein, 16-Apr-1980 19:25
85      0085 1 | Previous revision history moved to F11B.REV
86      0086 1 | **
87      0087 1 |
88      0088 1 |
89      0089 1 | LIBRARY 'SYSS$LIBRARY:LIB.L32';
90      0090 1 | REQUIRE 'SRC$:FCPDEF.B32';
91      1081 1 |
92      1082 1 |
93      1083 1 | FORWARD ROUTINE
94      1084 1 | CREATE_FCB      : L_NORM,      ! create a file ontrol block
95      1085 1 | UPDATE_FCB      : L_NORM NOVALUE; ! update contents of primary FCB
```



```

97 1086 1 GLOBAL ROUTINE CREATE_FCB (HEADER, PRIMFCB) : L_NORM =
98 1087 1
99 1088 1 ++
100 1089 1
101 1090 1 FUNCTIONAL DESCRIPTION:
102 1091 1
103 1092 1 This routine creates an FCB and initializes it according to
104 1093 1 the given file header.
105 1094 1
106 1095 1 CALLING SEQUENCE:
107 1096 1 CREATE_FCB (ARG1)
108 1097 1
109 1098 1 INPUT PARAMETERS:
110 1099 1 ARG1: address of file header
111 1100 1 ARG2: optional arg to specify primary fcb
112 1101 1
113 1102 1 IMPLICIT INPUTS:
114 1103 1 NONE
115 1104 1
116 1105 1 OUTPUT PARAMETERS:
117 1106 1 NONE
118 1107 1
119 1108 1 IMPLICIT OUTPUTS:
120 1109 1 NONE
121 1110 1
122 1111 1 ROUTINE VALUE:
123 1112 1 ADDRESS OF FCB
124 1113 1
125 1114 1 SIDE EFFECTS:
126 1115 1 FCB created and initialized
127 1116 1
128 1117 1 --
129 1118 1
130 1119 2 BEGIN
131 1120 2
132 1121 2 MAP
133 1122 2 HEADER : REF BBLOCK; ! file header argument
134 1123 2
135 1124 2 LOCAL
136 1125 2 FCB : REF BBLOCK, ! address of FCB created
137 1126 2 FCB_ORB : REF BBLOCK; ! address of ORB created
138 1127 2
139 1128 2 BIND_COMMON;
140 1129 2
141 1130 2 EXTERNAL ROUTINE
142 1131 2 ALLOCATE : L_NORM, ! allocate dynamic memory
143 1132 2 INIT_FCB2 : L_NORM; ! initialize contents of FCB
144 1133 2
145 1134 2 ! Allocate an FCB sized and typed block. Then use the common routine
146 1135 2 ! to init it.
147 1136 2
148 1137 2
149 1138 2 FCB = ALLOCATE (FCB$C_LENGTH, FCB_TYPE);
150 1139 2 FCB[FCB$L_WLFL] = FCB[FCB$L_WLFL];
151 1140 2 FCB[FCB$L_WLBL] = FCB[FCB$L_WLFL];
152 1141 2 FCB[FCB$L_STVBN] = 1; ! init start VBN to 1
153 1142 2
```

```
154      1143 2 ! Now for the ORB initialization.
155      1144 2
156      1145 2 FCB_ORB = FCB[FCB$R_ORB];
157      1146 2 FCB_ORB[ORB$W_SIZE] = ORB$C_LENGTH;
158      1147 2 FCB_ORB[ORB$B_TYPE] = DYN$C_ORB;
159      1148 2
160      1149 2 ! Common initialization.
161      1150 2
162      1151 2 IF ACTUALCOUNT EQL 2
163      1152 2 THEN
164      1153 2     INIT_FCB2 (.FCB, .HEADER, .PRIMFCB)
165      1154 2 ELSE
166      1155 2     INIT_FCB2 (.FCB, .HEADER);
167      1156 2
168      1157 2 INSQUE (.FCB, .CURRENT_VCB[VCB$L_FCBBL]);      ! Link into queue
169      1158 2
170      1159 2 RETURN .FCB;
171      1160 2
172      1161 1 END;                                     ! end of routine CREATE_FCB
```

			0004	00000
			7E	D4 00002
		B4	8F	9A 00004
0000G	CF		02	FB 00008
	52		50	D0 0000D
10	A2	10	A2	9E 00010
14	A2	10	A2	9E 00015
2C	A2		01	D0 0001A
	50	58	A2	9E 0001E
08	A0	58	8F	9B 00022
0A	A0	49	8F	90 00027
	02		6C	91 0002C
			0D	12 0002F
	7E	04	AC	7D 00031
			52	DD 00035
0000G	CF		03	FB 00037
			0A	11 0003C
		04	AC	DD 0003E 1\$:
			52	DD 00041
0000G	CF		02	FB 00043
	50	98	AA	D0 00048 2\$:
04	B0		62	0E 0004C
	50		52	D0 00050
			04	00053

.TITLE	CREFCB	
.IDENT	\V04-000\	
.EXTRN	ALLOCATE, INIT_FCB2	
.PSECT	\$CODE\$,NOWRT,2	
.ENTRY	CREATE_FCB, Save R2	1086
CLRL	-(SP)	1138
MOVZBL	#180, -(SP)	
CALLS	#2, ALLOCATE	
MOVL	R0, FCB	
MOVAB	16(FCB), 16(FCB)	1139
MOVAB	16(R2), 20(FCB)	1140
MOVL	#1, 44(FCB)	1141
MOVAB	88(R2), FCB_ORB	1145
MOVZBW	#88, 8(FCB_ORB)	1146
MOVB	#73, 10(FCB_ORB)	1147
CMPB	(AP), #2	1151
BNEQ	1\$	
MOVQ	HEADER, -(SP)	1153
PUSHL	FCB	
CALLS	#3, INIT_FCB2	
BRB	2\$	
PUSHL	HEADER	1155
PUSHL	FCB	
CALLS	#2, INIT_FCB2	
MOVL	-104(BASE), R0	1157
INSQUE	(FCB), 24(R0)	
MOVL	FCB, R0	1159
RET		1161

; Routine Size: 84 bytes, Routine Base: \$CODE\$ + 0000


```

174 1162 1 GLOBAL ROUTINE UPDATE_FCB (HEADER) : L_NORM NOVALUE =
175 1163 1
176 1164 1 !++
177 1165 1
178 1166 1 FUNCTIONAL DESCRIPTION:
179 1167 1
180 1168 1 This routine updates the file attributes of the file's prim
181 1169 1 if any, with the file attributes of the given header. The f
182 1170 1 is preserved.
183 1171 1
184 1172 1
185 1173 1 CALLING SEQUENCE:
186 1174 1 UPDATE_FCB (ARG1)
187 1175 1
188 1176 1 INPUT PARAMETERS:
189 1177 1 ARG1: address of file header
190 1178 1
191 1179 1 IMPLICIT INPUTS:
192 1180 1 NONE
193 1181 1
194 1182 1 OUTPUT PARAMETERS:
195 1183 1 NONE
196 1184 1
197 1185 1 IMPLICIT OUTPUTS:
198 1186 1 PRIMARY_FCB: address of file FCB or 0
199 1187 1
200 1188 1 ROUTINE VALUE:
201 1189 1 NONE
202 1190 1
203 1191 1 SIDE EFFECTS:
204 1192 1 FCB is updated if it exists
205 1193 1
206 1194 1 !--
207 1195 1
208 1196 2 BEGIN
209 1197 2
210 1198 2 MAP
211 1199 2 HEADER : REF BBLOCK; ! file header arg
212 1200 2
213 1201 2 BIND_COMMON;
214 1202 2
215 1203 2 EXTERNAL ROUTINE
216 1204 2 FILL_FCB : L_NORM; ! fill in FCB from header
217 1205 2
218 1206 2 ! All we do is call the common routine for the primary FCB.
219 1207 2 !
220 1208 2
221 1209 2 IF .PRIMARY_FCB NEQ 0
222 1210 2 THEN
223 1211 3 BEGIN
224 1212 3 CLEANUP_FLAGS[CLF_NOBUILD] = 1;
225 1213 3 FILL_FCB (.PRIMARY_FCB, .HEADER);
226 1214 2 END;
227 1215 2
228 1216 1 END; ! end of routine UPDATE_FCB

```

CREFCB
V04-000

B 3
16-Sep-1984 00:08:35
14-Sep-1984 12:30:14

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(3)

					.EXTRN	FILL_FCB		
			0000	00000	.ENTRY	UPDATE_FCB, Save nothing	:	1162
		08	AA	D5 00002	TSTL	8(BASE)	:	1209
			OF	13 00005	BEQL	1\$	:	
01	AA		08	88 00007	BISB2	#8, 1(BASE)	:	1212
		04	AC	DD 0000B	PUSHL	HEADER	:	1213
		08	AA	DD 0000E	PUSHL	8(BASE)	:	
0000G	CF		02	FB 00011	CALLS	#2, FILL_FCB	:	
			04	00016 1\$:	RET		:	1216

; Routine Size: 23 bytes, Routine Base: \$CODE\$ + 0054

; 229 1217 1


```
231 1218 1 GLOBAL ROUTINE REBLD_PRIM_FCB (PFCB, HEADER) : L_NORM NOVALUE =
232 1219 1
233 1220 1 !++
234 1221 1
235 1222 1 Functional Description:
236 1223 1
237 1224 1 This routines removes ACL's, if any, and deletes the extension
238 1225 1 FCB chain, if any.
239 1226 1 The access lock is rearmed if the fcb is stale.
240 1227 1 It then rebuilds the fcb from the header, if present.
241 1228 1
242 1229 1 !--
243 1230 1
244 1231 2 BEGIN
245 1232 2
246 1233 2 MAP
247 1234 2 PFCB : REF BBLOCK,
248 1235 2 HEADER : REF BBLOCK;
249 1236 2
250 1237 2 BIND_COMMON;
251 1238 2
252 1239 2 EXTERNAL ROUTINE
253 1240 2 ACL_DELETEACL,
254 1241 2 CONV_ACCLOCK : L_NORM,
255 1242 2 DEL_EXTFCB : L_NORM NOVALUE,
256 1243 2 INIT_FCB2 : L_NORM NOVALUE,
257 1244 2 MARK_INCOMPLETE : L_NORM NOVALUE;
258 1245 2
259 1246 2 IF .BBLOCK [PFCB [FCB$R_ORB], ORB$V_ACL_QUEUE]
260 1247 2 THEN
261 1248 2 ACL_DELETEACL (PFCB [FCB$L_ACLFL], 0);
262 1249 2
263 1250 2 DEL_EXTFCB (.PFCB);
264 1251 2
265 1252 2 IF TESTBITSC (PFCB [FCB$V_STALE])
266 1253 2 THEN
267 1254 2 IF NOT CONV_ACCLOCK (.PFCB [FCB$B_ACCLKMODE], .PFCB)
268 1255 2 THEN
269 1256 2 BUG_CHECK (XQPERR, 'unexpected lock manager reaction');
270 1257 2
271 1258 2 IF .HEADER EQL 0
272 1259 2 THEN
273 1260 2 RETURN;
274 1261 2
275 1262 2 INIT_FCB2 (.PFCB, .HEADER);
276 1263 2
277 1264 2 MARK_INCOMPLETE (.PFCB);
278 1265 2
279 1266 1 END; ! of routine REBLD_PRIM_FCB
```

```
.EXTRN ACL_DELETEACL, CONV_ACCLOCK
.EXTRN DEL_EXTFCB, MARK_INCOMPLETE
.EXTRN BUG$_XQPERR
```

0000 00000

.ENTRY REBLD_PRIM_FCB, Save nothing

; 1218

CREFCB
V04-000

D 3
16-Sep-1984 00:08:35
14-Sep-1984 12:30:14

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(4)

10	63	50	04	AC	DO	00002	MOVL	PFCB, R0	:	1246
		AO		01	E1	00006	BBC	#1, 99(R0), 1\$	:	
7E	04	AC	00000080	7E	D4	0000B	CLRL	-(SP)	:	1248
	0000G	CF		8F	C1	0000D	ADDL3	#128, PFCB, -(SP)	:	
				02	FB	00016	CALLS	#2, ACL_DELETEACL	:	
	0000G	CF	04	AC	DD	0001B	PUSHL	PFCB	:	1250
				01	FB	0001E	CALLS	#1, DEL_EXTFCB	:	
16	22	50	04	AC	DO	00023	MOVL	PFCB, R0	:	1252
		AO		08	E5	00027	BBCC	#8, 34(R0), 2\$	:	
		50	04	AC	DO	0002C	MOVL	PFCB, R0	:	1254
				50	DD	00030	PUSHL	R0	:	
	0000G	7E	0B	AO	9A	00032	MOVZBL	11(R0), -(SP)	:	
		CF		02	FB	00036	CALLS	#2, CONV_ACCLOCK	:	
		04		50	EB	0003B	BLBS	R0, 2\$	:	
					FEFF	0003E	BUGW		:	1256
					0000*	00040	.WORD	<BUG\$ XQPERR!4>	:	
			08	AC	D5	00042	TSTL	HEADER	:	1258
				11	13	00045	BEQL	3\$	:	
	0000G	7E	04	AC	7D	00047	MOVQ	PFCB, -(SP)	:	1262
		CF		02	FB	0004B	CALLS	#2, INIT_FCB2	:	
	0000G		04	AC	DD	00050	PUSHL	PFCB	:	1264
				01	FB	00053	CALLS	#1, MARK_INCOMPLETE	:	
				04	00058	3\$:	RET		:	1266

; Routine Size: 89 bytes, Routine Base: \$CODE\$ + 006B

: 280 1267 1
: 281 1268 1 END
: 282 1269 0 ELUDOM

PSECT SUMMARY

Name	Bytes	Attributes
\$CODE\$	196	NOVEC, NOWRT, RD, EXE, NOSHR, LCL, REL, CON, NOPI, ALIGN(2)

Library Statistics

File	Symbols		Pages Mapped	Processing Time
	Total	Loaded Percent		
_\$255\$DUA28:[SYSLIB]LIB.L32;1	18619	31 0	1000	00:01.9

CREFCB
V04-000

E 3
16-Sep-1984 00:08:35
14-Sep-1984 12:30:14

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DISK\$VMSMASTER:[F11X.SRC]CREFCB.B32;1 Page 9 (4)

COMMAND QUALIFIERS

; BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/LIS=LIS\$:CREFCB/OBJ=OBJ\$:CREFCB MSRC\$:CREFCB/UPDATE=(ENH\$:CREFCB)

; Size: 196 code + 0 data bytes
; Run Time: 00:30.8
; Elapsed Time: 00:58.4
; Lines/CPU Min: 2476
; Lexemes/CPU-Min: 67319
; Memory Used: 193 pages
; Compilation Complete

0169 AH-BT13A-SE
VAX/VMS V4.0

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